

IN THE CLAIMS

1. (Currently Amended) A client computer system for processing codestreams, the system comprising:

a memory having an application and a data structure stored therein, wherein the data structure identifies positions of the compressed codestream on a server and identifies data of the compressed codestream already buffered at the client, ~~if any~~; and

a processor coupled to the memory to execute the application to generate a request for portions of the compressed codestream based on indications of which portions of the codestream are already stored in the memory as indicated by the data structure, wherein size of the requested portions is determined based on at least two of resolution, layer, component, and precinct of an image specified by a user of the client, and wherein the size of the requested portion is derived from the data structure of the client corresponding to the user specified at least two of resolution, layer, component, and precinct of the image,

wherein the processor prior to decoding, integrates previously obtained portions of the compressed codestream with portions of the compressed codestream received as a result of the request to create a new codestream by putting packets in the order the packets appeared in the compressed codestream and by updating codestream markers to reflect that the previously obtained portions of the compressed codestream and the portions of the compressed

codestream received as a result of the request are part of the new
codestream,

wherein the codestream markers include a TLM marker and PLM marker that
provide a byte map to each of the packets, each of the packets being
distinguishable by tile, component, resolution, and layer, wherein the
processor adjusts values of at least the TLM and PLM markers to
reassemble the new codestream to be compliant with the JPEG 2000
standard, including adjusting the TLM and PLM markers to be compatible
with corresponding markers of the JPEG 2000 standard, so that an ordinary
JPEG 2000 decoder can be invoked to decode the new codestream if the
portions of the compressed codestream received as a result of the request
are not JPEG 2000 compliant.

2. (Canceled)

3. (Currently Amended) A network system for processing codestreams in a client-server
configuration, the network system comprising:

a server to store a compressed codestream corresponding to image data; and
a client coupled to the server via a network environment, wherein the client includes a
memory having an application and a data structure stored therein, wherein the
data structure identifies positions of the compressed codestream on the server
and identifies data of the compressed codestream already buffered at the client,
~~if any~~, and further wherein the client operates to request bytes of the
compressed codestream from the server that are not already stored in the

memory and generate a new codestream from the bytes of the compressed codestream requested from the server and any portion of the compressed codestream previously stored in the memory necessary to create the image data, the new codestream generated by putting packets in the order the packets appeared in the compressed codestream and by updating codestream markers to reflect that the bytes of the compressed codestream requested from the server and any portion of the compressed codestream previously stored in the memory necessary to create the image data are part of the new codestream, the client to generate image data by decoding the new codestream, wherein size of the requested bytes is determined based on at least two of resolution, layer, component, and precinct of an image specified by a user of the client, and wherein the size of the requested portion is derived from the data structure of the client corresponding to the user specified at least two of resolution, layer, component, and precinct of the image,

wherein the codestream markers include a TLM marker and PLM marker that provide a byte map to each of the packets, each of the packets being distinguishable by tile, component, resolution, and layer, wherein the processor adjusts values of at least the TLM and PLM markers to reassemble the new codestream to be compliant with the JPEG 2000 standard, including adjusting the TLM and PLM markers to be compatible with corresponding markers of the JPEG 2000 standard, so that an ordinary JPEG 2000 decoder can be invoked to decode the new codestream if the portions of the compressed codestream received as a result of the request are not JPEG 2000 compliant.

4. (Original) The system defined in Claim 3 wherein the portions of the compressed codestream are selected from a group consisting of packets, tile parts, and coded data segments from a codebook.
5. (Original) The system defined in Claim 3 wherein, when executing the application, the client
determines image characteristics that a user requests,
selects data of a compressed codestream that corresponds to the image characteristics,
determines data of a compressed codestream that corresponds to the image characteristics that is not already buffered at the client,
issues requests to the server to obtain the data of a compressed codestream that corresponds to the image characteristics that is not already buffered at the client,
integrates data received from the server with any previously buffered data of the compressed codestream that corresponds to the image characteristics,
decodes the data of the compressed codestream that corresponds to the image characteristics, and
displays an image corresponding to the decoded compressed codestream.
6. (Original) The system defined in Claim 3 wherein the server serves byte requests.
7. (Original) The system defined in Claim 3 wherein the client further comprises a software decoder, and the client creates the compressed codestream for the software decoder by integrating bytes requested with previously obtained bytes.

8. (Original) The system defined in Claim 3 wherein the client determines the location and length of each packet.
9. (Original) The system defined in Claim 8 wherein the client requests a headerlength of a compressed file from the server that includes one or more file format boxes and a main header of the codestream box from which the client determines the location and length of each packet.
10. (Previously Presented) The system defined in Claim 9 wherein the main header includes two marker segments indicative of a map to every packet.
11. (Original) The system defined in Claim 10 wherein the two marker segments comprise the TLM and PLM marker segments.
12. (Original) The system defined in Claim 9 wherein the server comprises a script that streams only requested bytes to the client that are in a range specified in the request.
13. (Original) The system defined in Claim 3 wherein the compressed codestream comprises a JPEG 2000 codestream.
14. (Previously Presented) A method for processing image data by a client, the method comprising:

determining image characteristics that a user requests, the image characteristics

including at least two of resolution, layer, component, and precinct of an image specified by the user;

selecting data of a compressed codestream that corresponds to the image characteristics;

determining data of a compressed codestream that corresponds to the image characteristics that is not already buffered at the client, size of the determined data being determined based on the determined image characteristics, wherein determining the data comprises using a data structure that identifies positions of portions of the compressed codestream on a server and that identifies data of the compressed codestream already buffered at the client, and wherein the data of the compressed codestream that corresponds to the image characteristics that is not already buffered at the client is derived from the data structure of the client corresponding to the user specified at least two of resolution, layer, component, and precinct of the image;

issuing requests to the server to obtain the data of a compressed codestream that corresponds to the image characteristics that is not already buffered at the client;

integrating data received from the server with any previously buffered data of the compressed codestream that corresponds to the image characteristics to create a new codestream having markers that reflect both data received from the server and any previously buffered data of the compressed codestream that corresponds to the image characteristics are included in the new codestream, wherein the markers include a TLM marker and PLM marker that provide a

byte map to each of the packets, each of the packets being distinguishable by tile, component, resolution, and layer, including adjusting values of at least the TLM and PLM markers to reassemble the new codestream to be compliant with the JPEG 2000 standard, including adjusting the TLM and PLM markers to be compatible with corresponding markers of the JPEG 2000 standard, so that an ordinary JPEG 2000 decoder can be invoked to decode the new codestream if the portions of the compressed codestream received as a result of the request are not JPEG 2000 compliant;

decoding according to the JPEG 2000 standard the data of the new codestream that corresponds to the image characteristics; and
displaying an image corresponding to the decoded new codestream.

15. (Original) The method defined in Claim 14 further comprising the server serving byte requests.

16. (Original) The method defined in Claim 14 further comprising compiling the compressed codestream for a software decoder on the client.

17. (Original) The method defined in Claim 14 further comprising determining the location and length of each packet.

18. (Original) The method defined in Claim 17 further comprising requesting a headerlength of a compressed file from the server that includes one or more file format boxes

and a main header of the codestream box from which the client determines the location and length of each packet.

19. (Original) The method defined in Claim 18 wherein the main header includes two marker segments indicative of a byte map to every packet.

20. (Original) The method defined in Claim 19 wherein the two marker segments comprise the TLM and PLM marker segments.

21. (Original) The method defined in Claim 14 wherein the compressed codestream comprises a JPEG 2000 codestream.

22. (Previously Presented) An article of manufacture having one or more recordable media having executable instructions stored thereon which, when executed by the system cause the system to:

determine image characteristics that a user requests, the image characteristics including at least two of resolution, layer, component, and precinct of an image specified by the user;

select data of a compressed codestream that corresponds to the image characteristics;

determine data of a compressed codestream that corresponds to the image characteristics that is not already buffered at the client, size of the determined data being determined being based on the determined image characteristics, wherein determining the data comprises using a data structure that identifies positions of portions of the compressed codestream on a server and that

identifies data of the compressed codestream already buffered at the client,
wherein the data of the compressed codestream that corresponds to the image characteristics that is not already buffered at the client is derived from the data structure of the client corresponding to the user specified at least two of resolution, layer, component, and precinct of the image;

issue requests to the server to obtain the data of a compressed codestream that corresponds to the image characteristics that is not already buffered at the client;

integrate data received from the server with any previously buffered data of the compressed codestream that corresponds to the image characteristics to create a new codestream having markers that reflect both data received from the server and any previously buffered data of the compressed codestream that corresponds to the image characteristics are included in the new codestream, wherein the markers include a TLM marker and PLM marker that provide a byte map to each of the packets, each of the packets being distinguishable by tile, component, resolution, and layer, including values of at least the TLM and PLM markers to reassemble the new codestream to be compliant with the JPEG 2000 standard, including adjusting the TLM and PLM markers to be compatible with corresponding markers of the JPEG 2000 standard, so that an ordinary JPEG 2000 decoder can be invoked to decode the new codestream if the portions of the compressed codestream received as a result of the request are not JPEG 2000 compliant;

decode the data of the new codestream that corresponds to the image characteristics;

and

display an image corresponding to the decoded new codestream.

23. (Original) The article of manufacture defined in Claim 22 further comprising instructions which, when executed by the system, cause the system to create the compressed codestream for a software decoder on the client.

24. (Original) The article of manufacture defined in Claim 22 further comprising instructions which, when executed by the system, cause the system to determine the location and length of each packet.

25. (Original) The article of manufacture defined in Claim 24 further comprising instructions which, when executed by the system, cause the system to request a headerlength of a compressed file from the server that includes one or more file format boxes and a main header of the codestream box from which the client determines the location and length of each packet.

26. (Original) The article of manufacture defined in Claim 25 wherein the main header includes two marker segments indicative of a byte map to every packet.

27. (Original) The article of manufacture defined in Claim 26 wherein the two marker segments comprise the TLM and PLM marker segments.

28. (Original) The article of manufacture defined in Claim 22 wherein the compressed codestream comprises a JPEG 2000 codestream.

29-38 (Canceled)